Improving Diabetes Education through Distance Learning/Telephonic Education

Population Health

Introduction:

In September 2009, the Thomas Koritz Clinic at Seymour Johnson Air Force Base (SJAFB) in North Carolina identified a gap in educating and following up on our diabetic patients. The clinic was unable to provide the tools necessary for our diabetics to manage their disease, where the main concerns were 1) the low adherence among diabetic patients to attend scheduled physician appointments and 2) the need for increased awareness and patient participation in their diabetes care. Indeed, the Healthcare Effectiveness Data and Information Set (HEDIS) data validated the lack of required blood tests, eye examinations, and physician appointments. Moreover, our internal analyst performed an audit showing that our clinic has approximately 350 patients who have had a hemoglobin A1c (HgA1c) drawn over the past year. Review of records and lab results indicated a current clinic diabetes population of 307 patients, 273 of whom have received care at the clinic over the past year, and 34 patients of whom are followed elsewhere.

The incidences of missed educational and follow-up appointments stood at six percent, and were due to reasons such as travel, lack of time to attend group or one-on-one sessions, laboratory hours, and deployment. Alternately, telephonic education represents a viable means to deliver patient-centered diabetes education, capture outliers, and ultimately sharpen the focus on arming patients with the skills necessary to make positive healthcare decisions.

Telephonic education/distance learning offers providers and patients an option for diabetes education that allows for autonomy; ensures that medications, nutrition and follow-up appointments are administered correctly and safely; and promotes closer collaboration between providers and patients that leads to the overall improvement in continuity of care.

The aims of this initiative are to 1) offer distance learning for diabetes education via teleconference and 2) determine whether or not this mode of education improves compliance with self-management and participation in recommended diabetes care.

The goal is to assess processes to improve care for patients with diabetes, improve health care delivery for patients with diabetes, and support the 4th Medical Group Commander's top five priorities of our clinic: 1) patient safety, 2) patient satisfaction, 3) improvement in HEDIS measures, 4) reduction in emergent and urgent care, and 5) continuity of care.

A pre-post design will be used to evaluate the outcomes of the program…namely, are the patients calling into the system? The first five months of the program will be used to track how many patients have utilized the telephonic education. Tracking of outcomes will include monitoring of HgA1c (the desired HgA1c for most patients is less than 7%), Low-Density Lipoprotein (LDL), participation in at least five distance learning sessions via pre and post session roll call, and improved appointment adherence with the disease manager.

Methods

Based on the American Diabetes Association (ADA) recommendations and literature synthesis, the diabetes working group began to research data on the use of distance education. Several studies have reported that computer assisted learning has advantages over traditional educational formats. For example, the patients were observed to be more active during the sessions where benefits included the ability to choose areas of interest, control the flow of learning, and "repeat" the information at a later time with family members. Additionally, computer assisted learning was found to be cost-effective and accessible. The working group knew that diabetes education increases adherence to care and increases glucose control, thereby decreasing the complications of high blood pressure, heart disease, blindness, kidney disease and amputation. Studies have shown that control of A1c, blood pressure, and cholesterol (the ABCs of diabetes) can significantly delay or prevent these complications.

SJAFB's Family Health clinic piggybacked on the 2007 (ADA) standards of medical care position statement supporting diabetes self management education (DSME), calling it an essential element in diabetes management. Distance learning may provide an alternate method for education using a competent diabetic educator and disease manager that consequently, could raise the compliance of diabetic patients.

The distance education curriculum will include books and the "Living Well with Diabetes-Self Care Workbook-ADA Guidelines." Participants will be able to move through the workbook at their own pace. Interactive learning sessions will be conducted bimonthly by a diabetes educator and the disease nurse manager at the clinic. Sessions will be 45 minutes long, with time allotted for questions and answers. The distance learning will follow Merck's Journey for Control "seven healthy behaviors curriculum" (being active, eating healthy, monitoring blood

sugar, taking medication, coping with diabetes, solving problems and reducing risks) based on ADA guidelines.

Patients will access the live session using a telephone-toll free dial-in number. The patients can call in from any location and participate in the live session. The sessions are intended to provide an alternate avenue to diabetes education for patients who may live at a distance, may not have available transportation, may be elderly, and/or work full time or be deployed. The disease manager at SJAFB will continue to schedule patients for their in-clinic follow-up appointments every 4 months using the (DoD/VA) Diabetes Mellitus Clinical Practice Guidelines.

The first step in implementing the distance learning program was to define the problem and opportunity for improvement to the organization and involve all stakeholders. The HEDIS metrics are briefed quarterly to the Population Health working group, and minutes are submitted to the Executive Committee. The largest stakeholder involved is the Family Health clinic. The quality improvement diabetes working group reviewed HEDIS data (209 of the patients have an average A1c of 6.9 or above, 204 have an average LDL of 98 or above, 204 have cholesterol of 182 or above, and 204 patients have HDL of 50 or lower) and noted an increase in cancelled appointments and lack of a diabetes physician champion in 2009. The multidisciplinary team, composed of a Family Medicine physician (who is also the Medical Director of the Family Health Clinic), dietician, disease nurse manager, information technologist, diabetes educator, laboratory officer, pharmacist, and performance improvement professional, began meeting monthly to brainstorm the issues at hand. The 8 step problem solving tool was used.

Implementation of the distance learning program in the outpatient clinic setting is considered a quality improvement initiative. The goal is to assess processes to improve care for patients with diabetes. The primary goal is to improve health care delivery for patients with diabetes. The "Plan, Do, Study, Act" (PDSA) model for program development will be used to guide the process from implementation to evaluation and revision. The PDSA cycle outlines the steps needed to implement distance education with coordination of all components and continual assessment and revision. Cycles will be initiated sequentially allowing for evaluation and goal adjustments before the next cycle is implemented.

A formal letter was sent to all 273 diabetics identified as being seen at the clinic within the last year and who have had an A1c level drawn. The letter informed the patient of the newly built team who would be actively providing continuous diabetic care: family health clinic physician, diabetic nurse educator, disease-nurse manager, and registered dietitian. The letter also informed the patients of the group diabetes education class, and the use of distance learning for diabetes education. The study will take place at the Family Health clinic for those patients with adult type 2 diabetes who respond to the letter and agree to participate in the distant learning education. Customer satisfaction and medical appointments will be the starting points to solicit patient feedback, concerns and suggestions for improving the program.

Data collection will be managed by the nurse disease manager, who has been given a schedule and rights to book patient appointments. She will become the point person for adult patients with adult type 2 diabetes, and can provide counseling and referral to the Family Health physician as needed using the DoD/VA Primary Care – Core Algorithm.

Results

The implementation of the distance learning education session for adults with type 2 diabetes is in alignment with the Vision of the Thomas Koritz Ambulatory Clinic – "AF Benchmark Clinic for Patient Safety and Medical Home, While Deploying World Class Healthcare, Anytime, Anywhere". The 4th Medical Group Commander – Colonel Leslie Claravall supports the top five priorities of our clinic: 1) patient safety, 2) patient satisfaction, 3) improvement in HEDIS measures, 4) reduction in emergent and urgent care and 5) continuity of care. The executive team at the clinic fully supports the Family Health clinic, and its efforts to provide real time education to patients.

A follow-up evaluation for the Diabetes Education through Distance Learning Session via an approved letter will be sent by US mail to patients diagnosed with type 2 diabetes. The letter explains the intent of the post session evaluation survey and indicates when the evaluation will be mailed out. Completion of the survey and an approved post session evaluation will likewise be returned by the patients via mail with no postage required, made possible by advanced arrangements with SJAFB post office. The proposed study will use a pre-post design to evaluate the use of distance learning and the effectiveness of the education – the Journey for Control "seven healthy behaviors" in decreasing A1c and LDL levels.

The clinic has experienced several changes with the implementation of distance learning. The innovation was reviewed by research staff at Travis Air Force base and was deemed a process improvement initiative and therefore, was exempt from the Air Force Institutional Review Board (IRB). A diabetes physician champion has been named, a disease nurse manager

slot has been created, and SJAFB's communication squadron has allowed the use of a 1-866 number for the live sessions.

Obstacles tackled were 1) cost of supplies, 2) securing the 1-866 number, and 3) availability of a designated conference room for the sessions. The Journey for Control books and conversation maps were donated by the Merck Pharmaceutical Company and was cleared by the base legal office. Scheduled dates and times of the sessions were approved by the 4th Fighter Wing's communication squadron, and the Medical Group Commander's conference room was made available and reserved. The biggest challenges yet to be determined are 1) the willingness of the patients to participate, 2) adjusting laboratory hours to accommodate the patients, and 3) funding of a costly HGA1c machine.

Conclusion

Diabetes affects 25.8 million people, or 8.3% of the U.S. population. Of these, 20.8 million have type 2 diabetes. This number is predicted to rise to 23% of Americans by the year 2020.

Potential for sustainability of the distance learning is very high. Incorporating stakeholders, staff members, and patient's feedback are imperative for success. The diabetes working group members will continue to re-evaluate the program and market it to other areas of the military.

With recent transformations in diabetes care, patients are now being encouraged to take a more active approach in managing their health care needs. Self-management education focuses on self-care behaviors such as eating healthy, being active, and monitoring blood sugar. It is a

collaborative process in which diabetes educators help people with diabetes (or who are at risk for diabetes) gain the knowledge and problem-solving or coping skills needed to successfully self-manage the disease and its related conditions.

In summary, the vision of the Thomas Koritz Ambulatory Clinic is "AF Benchmark Clinic for Patient Safety and Medical Home, While Deploying World Class Healthcare, Anytime, Anywhere". The primary stakeholders in this initiative are 1) our diabetic patients, 2) the Family Health clinic, and 3) the 4th Medical Group Commander, who strongly supports patient centered care. This innovation of Diabetes Education through Distance Learning aims to reach our patients regardless of location, caters to their needs, and is in sync with our clinic's aforementioned vision.

The success of the distance learning for diabetes can be extended to other areas of disease management, such as hypertension, type 1 diabetes, post traumatic stress disorder, cancer support, and other diseases where compliance is an issue. Patient satisfaction is the key to the success of this program.